

Quail Raising

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FIGURE II
GROWER/LAYER STAND

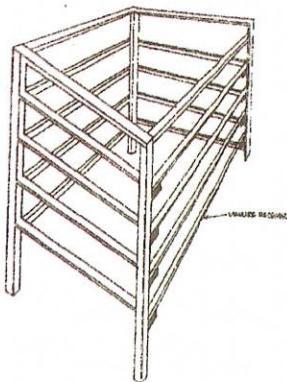


FIGURE III
A Brooder box measures 2' x 4.5 x 1' and can accommodate 200 chicks. A 50watts bulb is needed to give heat to the chicks.

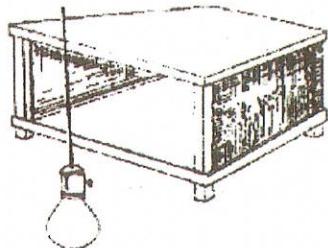
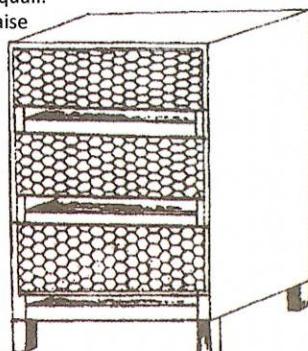


FIGURE IV
Battery or layer type house for quail.
This type of housing, one can raise more quails even in a limited space. Sheets (i.e. G.I.) should be provided in between layers for waste collection purposes.



QUAIL RAISING

Quails by some distinction are classified as "game" or "hunting" birds and as such, quails should not be compared with chicken, whose requirements are different.

On a commercial scale, quail raising has not attracted the interest of the investors because of the lack of information particularly with regards to feeding. Many people who go into quail raising are usually hobbyist who are not income-conscious.

Breeds of Quail

- Japanese Seattle
- Silver
- Negro
- Japanese Taiwan/ Chinese Quail
- Tuxedo
- Brown Crosses nos. 1 and 2

Starting the Project

To start a project, care must be exercised in the selection of the first stock. There are many quail breeding farms on and near the Metro Manila area.

A. Selection of Stock

For a beginner, it is the best to start with quail pullets about 30-35 days old. Some of the pointers in selecting quails are as follows:

- a) Body conformation
 1. The feathers should be tidy and neat
 2. Avoid buying those with streak of white or black feathers - these could be signs of inbreeding
- b) Choose birds with uniform size. A mature (60 day old) Japanese quail (*Coturnix japonica*) would have an average weight of 120 grams. However, a 30-35 day-old bird would only average 100 grams. The American quail (*Coturnix Octumix*) however weighs heavier at 220 grams for the mature bird and 200 grams for the 30-35 days old.

c) Record of the parents stock

1. Size of eggs
2. Laying efficiency - a 65% average laying efficiency within 300 days laying period is desirable.
3. Growth rate/body weight

B. Size of the Flock

The size of the initial stock totally depends on the financial capacity of the person. However, it is not advisable to start big. Quails are not easy to raise and a beginner should first get the necessary experience before going into large scale. Quails multiply rapidly and therefore expansion will not be a problem. A beginner can start with 10-15 pullets.

Management

A. Housing and Equipment

One of the advantages in quail raising is the relatively small space that is required. Commensurately, the cost of putting up a cage is cheaper. The materials commonly used in making quail cages are:

1. plywood
2. $\frac{1}{2}$ inch mesh wire
3. 1" x 1" lumber to serve as framework

For every single stage in the quail's life, space requirement varies. This is true as in the case of the other fowls and even livestock animals. The following will help guide the raiser in determining the space required for quails.

	Japanese (per bird)	American (per bird)
Chick stage (1-15 day old)	2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "
Growing stage (16-35 days old)	3" x 3"	3 $\frac{1}{2}$ " x 3 1/2"
Laying stage (36 days old & up)	3 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "	4 $\frac{1}{2}$ " x 4 1/2"

Since quails are not efficient feed converter, they should be raised for broiler production.

Marketing

A. Eggs

Eggs are the main product of quails. For small scale/backyard quail raising, this can be placed in a basket and marketed fresh. For bigger operation, it is advisable to pack eggs in carton boxes with individual dividers to protect the quality of the eggs. Storing eggs in a cool dry place where air circulation is good can keep the eggs fresh for a period of seven days.

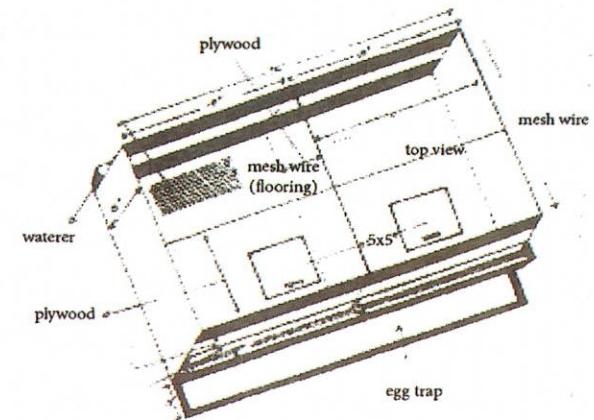
B. Broilers/ Stewers

The average feed conversion ratio of quails is 3:1 this poor feed conversion efficiency makes a broiler production uneconomical and therefore any broiler produced should be treated secondary product in quail raising. The procedure in dressing quail is the same as in chicken. The birds are bled and scaled in hot water (about 132-135F) after the feathers are removed. Evisceration follows. The dressed birds are then chilled and packed by the dozen or in kilos.

C. Prices

Broilers are more tender than stewers (culled layers). As such, the former are sold at a higher price. The selling price of these should be based on the cost of production from day old to 60 plus the dressing, storage and related selling cost.

FIGURE I
Grower/Layer Cage



2. Production

- Laying efficiency can be easily maintained within the average range of 63%-68% for a period of 300-320 days. It is not rare to get laying efficiency of 80%.
- Eggs are bigger and more nutritious
- For breeders - fertility and hatchability are high.

These things when quantified taken together would be positively refute the claim that feeding quails with higher protein content as recommended here is costly and uneconomical.

The feed consumption of quail at different stages are:

	Japanese	American
Chick Stage (per bird)	7 grams/day	10 grams/day
Growing stage (per bird)	17 grams/day	32 grams/day
Laying stage (per bird)	23 grams/day	45 days/day

During the first 15 days, the feeds of the birds should be grounded to a fineness enough to pass an ordinary window screen wire.

Like chicken, quails are affected by abrupt changes in feeding. Hence, it is not advisable to change feed abruptly.

F. Maintaining Health

There is no known morbid disease of quails. While they suffer some respiratory disorders, these do not spread fast and the mortality rate is very low. Hence it is not difficult to maintain the health of birds. Regular cleaning and disinfection program, however, should be followed. Cages and broiler boxes including the incubator and hatchery trays can be cleaned with strong water dried under the sun. Spraying with disinfectant follows. Vitamin premix can also added to the feeds or the drinking water to promote growth and improve the laying performance.

Layer cages should not be too high preferably a 5" and 6" height can accommodate the Japanese and American breed, respectively. Providing too much space will encourage too much movement thereby increasing the risk of injuries. Figure 1 shows a sketch of a grower/cage.

B. Brooding Management

1. Temperature

During the first five days, the temperature requirement of the quail is 95° F. This may be reduced to 90°F on the 6th day down to 85°F on the 10th day after which the quail birds will have developed enough feathers to keep their body warm under ordinary room temperature. To ensure better circulation of air in the brooding box, air vents should be provided. Used clean cloth or sack can be spread over the screened portion of the brooder especially during the first 10 day. This will help conserve the heat in the brooder. Five or six layers of clean and dry newspaper shall be used to cover the mesh wire flooring during the first 10 days. The practice is necessary because it will not only help conserve the heat inside the brooder box but more importantly, cleaning and removal of quail manure (which is done on every other paper) is facilitated by just rolling the top most layer of paper. After the 10th day, all the papers are removed the feeding through covered with ¼ mesh wire (to avoid much spillage) will be used. Water in the drinking fountain should be changed daily and care must be exercised to avoid spilling of water over the paper to prevent unnecessary dampness.

Gas lamp or electric bulb may be used to control the temperature inside the brooder. The brooder box must be cat and rat proof. With proper feeds the brooding stage usually last up to 15 days. Mortality can be kept at 5%-8% during the brooding stage, when enough water and optimum temperature are maintained. (Figure II shows a typical brooder box.)

C. Rearing Management

After the 15th day, the birds are transferred to the growing cages (Figure 1). During the growing stage, it is not advisable to expose the birds to more than 12 hours of light. For smaller operation, a brooder/grower box combination can be constructed but the space requirement of the birds should be observed.

Only birds which are healthy and with uniform size should be transferred to the growing cages. The small ones should be disposed. The average mortality from the start of the growing period up to 35 days is 1%

4%. On the 35th day, the male birds are already discernable by the dark brown color of the breast feather. At this stage, the female birds can be segregated and transferred to the laying cages. Approximately 40% of the total population can be chosen as layers on an assumed 50/50 male/female ratio. The remaining birds can be fattened up to 60 days before these are dressed and sold as broilers. During the 25 days fattening period, light should be restricted from 6-8 hours a day. This practice will improve the quality of meat.

D. Layer Management

On the average, quail start laying after 45 days from hatching. The production cycle lasts for 300-320 days and within this period the laying efficiency should be maintained at 65%. Some of the major consideration when managing layers are:

- a) **Feeding** - this will be discussed separately in pages 4-5.
- b) **Water** - like any other bird, quail needs a lot of fresh and clean water. Whenever possible, flowing water should be maintained except when there is supply problem in which case water should be replaced daily and the watering trough must be cleaned everyday.
- c. **Culling** - for large scale operation, it is advisable that massive culling be done regularly, preferably on a quarterly basis or even once every 4 months. Birds that have physical defects should be removed including those which have grown fat, or are sickly and are not laying eggs. This latter condition is manifested by the size of the vent and the conformation of the abdominal parts.
- d. **Removal of Waste** - Because of the high protein content of the quail feeds, quail manure has high ammonia content which will cause discomfort for the birds if not removed daily. Removal of the manure can be facilitated by placing a manure receptacle or receiver under the cage.
- e. **Light** - Laying quails maybe given extra light up to midnight. This will allow the birds to consume the feed in the trough. Furthermore, the weaker birds in the group will have enough time to eat after the dominant ones have eaten their share.
- f. It is not advisable to mix male birds in the laying cage except when fertile eggs are to be produced. If there is an intention of producing fertile eggs for future replacement, the male should be

kept in separate cage and should only be mixed with the layers at the time fertile eggs are to be produced at a ratio of 1:6 and 1:3 for the Japanese and American breed, respectively.

- g) Quail birds are very sensitive to high salt level in the feeds. The optimum level of this mineral should be kept 7% and in no case be more than 1%.

E. Feeding Management

The major cause of failure in quail raising is the faulty feeding practice employed by the raiser. Most of our quail raisers today feed commercial chicken feeds to quails. This is an erroneous practice and it should be corrected. The protein requirements of chicken and quails are different and as such the use of chicken feeds in quail raising is not advisable. Below is a comparison of the crude protein requirement of chichen and quail.

	Quail	Chicken
Chick Stage	28%	21%
Grower Stage	24%	16%
Layer stage	26%	15%

From the above information, we can clearly see the mark difference in the primary requirement of both birds. Quail cannot survive on chicken feeds for a long time. If ever they will survive, the mortality rate will be very high sometimes reaching up to 70% from day old to 45 days. Moreover, the growth of the birds is very uneven and the survivors will not be efficient layers. The productive laying period for quails fed with the chicken feed do not go beyond six months.

Another disadvantage of feeding chicken mash to quails is the very occurrence of molting which affects severely the egg production.

The claim that mixing quails feeds with higher protein is expensive and not economical is baseless. The advantages of giving the right ration far out weigh the cost of giving feeds. These advantages can be summarized below:

1. Mortality rate can be kept low with good feed:
 - 5-8% from 1-15 days
 - 1-4% from 16-35 days
 - 8-12% from 36-360 days